
# Joint Mission Planning System (JMPS) DII COE Segmentation/Installation Technique

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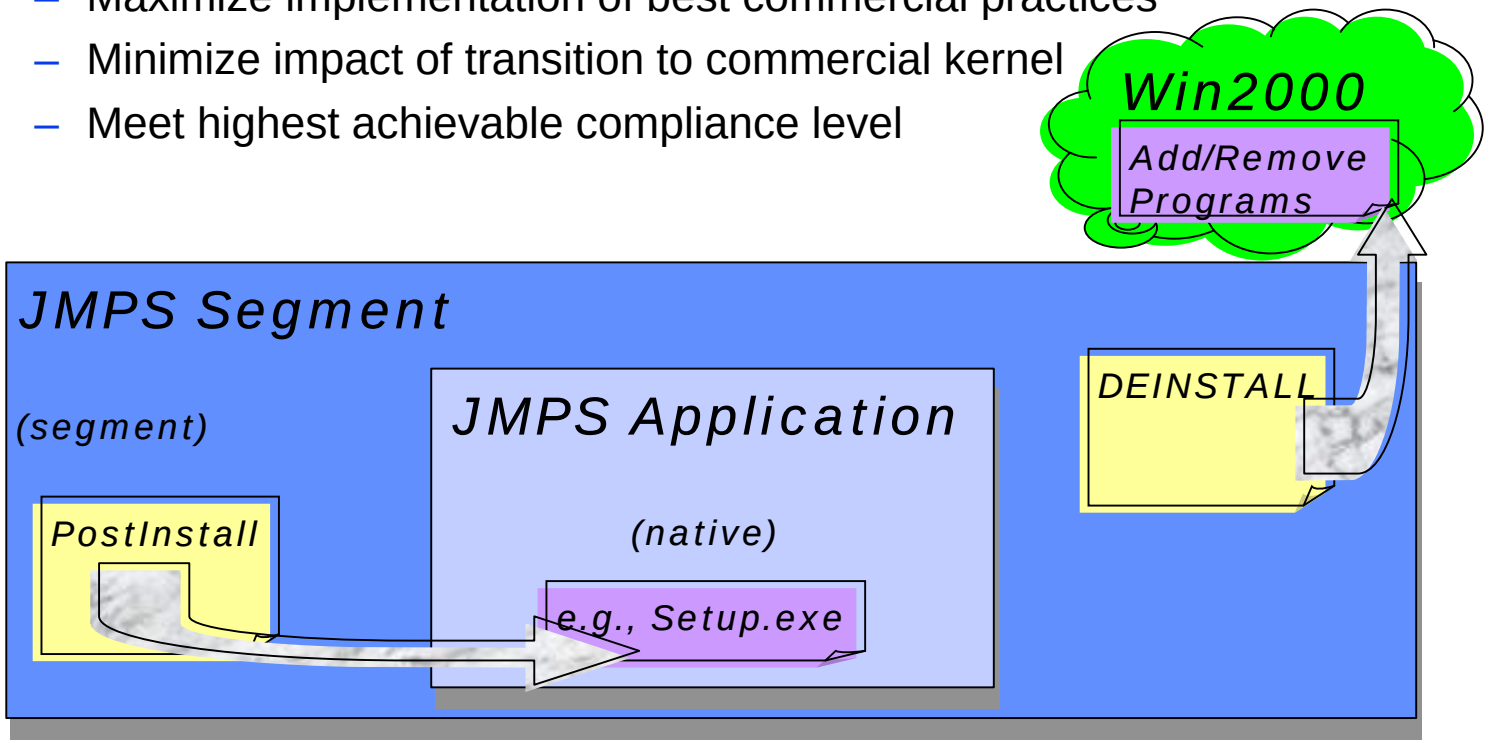
# NTAG Briefing Objectives

- **Familiarize DII COE community with**
  - Segmentation/installation techniques proposed by the JMPS developer (for use with the COE 4.x kernel)
  - Proposed transition of these techniques to the commercial COE 5.x kernel

# JMPS Segmentation/Installation Technique

- **"One-step" abbreviated segmentation**
  - Maximize implementation of best commercial practices
  - Minimize impact of transition to commercial kernel
  - Meet highest achievable compliance level



# Allocation of Segmentation and Installation Tasks

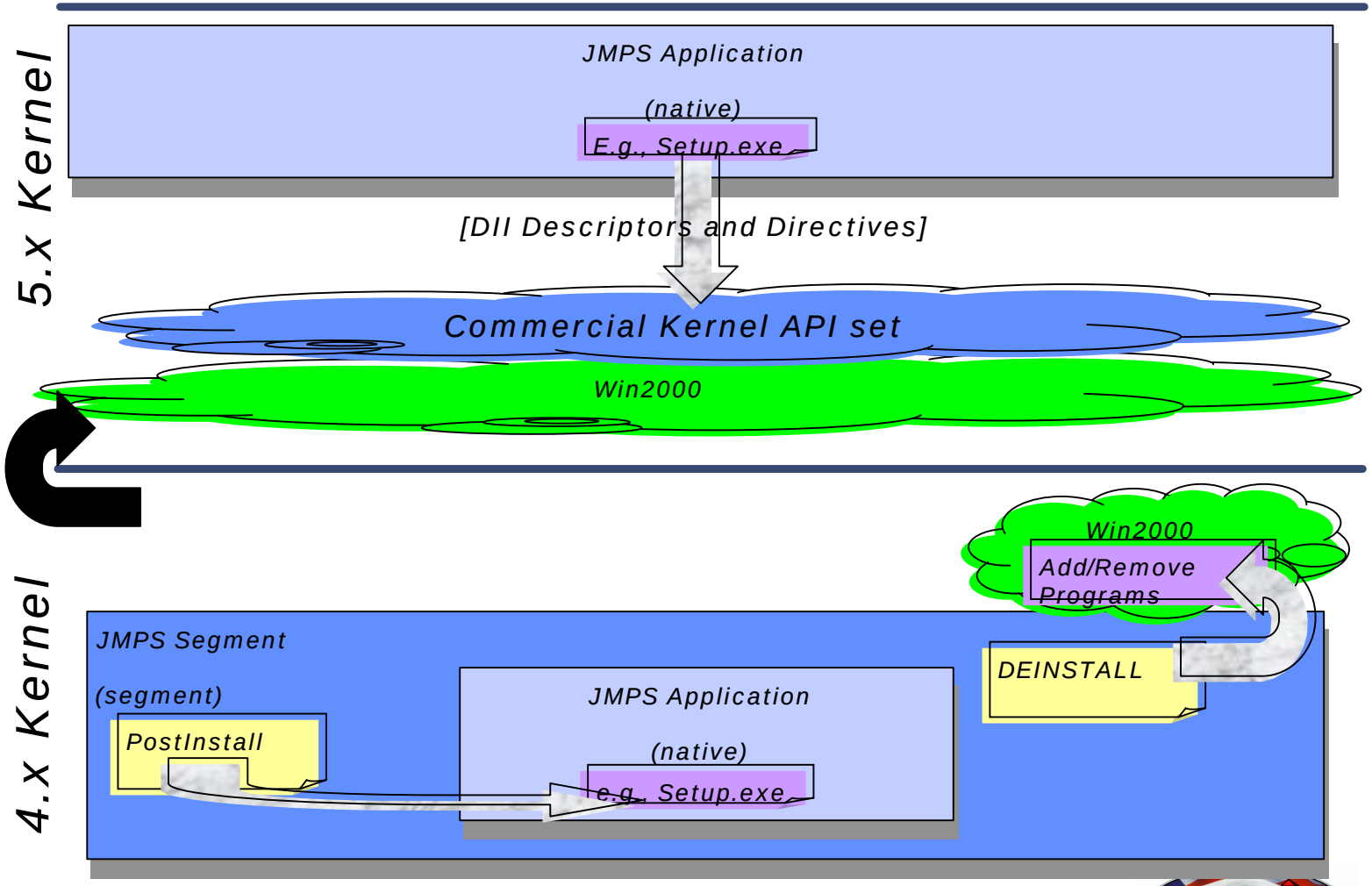
- **Segment Packaging**
  - Declare all required descriptors according to segment type.
    - [Hardware]
    - [Security]
    - [FileList]
  - Declare all applicable optional descriptors as required:
    - [COEServices] $SERVICES
    - All COEInstaller Directives
      - $ACCTADD
      - $ACCTDEL
      - Etc..
    - [Processes]
    - [Requires] & [Conflicts] segment level
    - Community File modifications

**[Rule of thumb: Use the appropriate descriptor where required for kernel functionality and traceability. If the descriptor is convenience only, perform in native packaging.]**

- **Native Packaging**
  - Set appropriate file attributes for all files created.
  - Process all registry entries
  - Process requirements & conflicts at the component level
  - Check disk space requirement for target installation drive
  - Give installer the option of installation directory/partition

**[According to I&RTS requirements and recommendations.]**

# Facilitate Transition to Commercial Kernel



# Discussion Items



# JMPS DII Compliance Points of Contact

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# Backup Slides

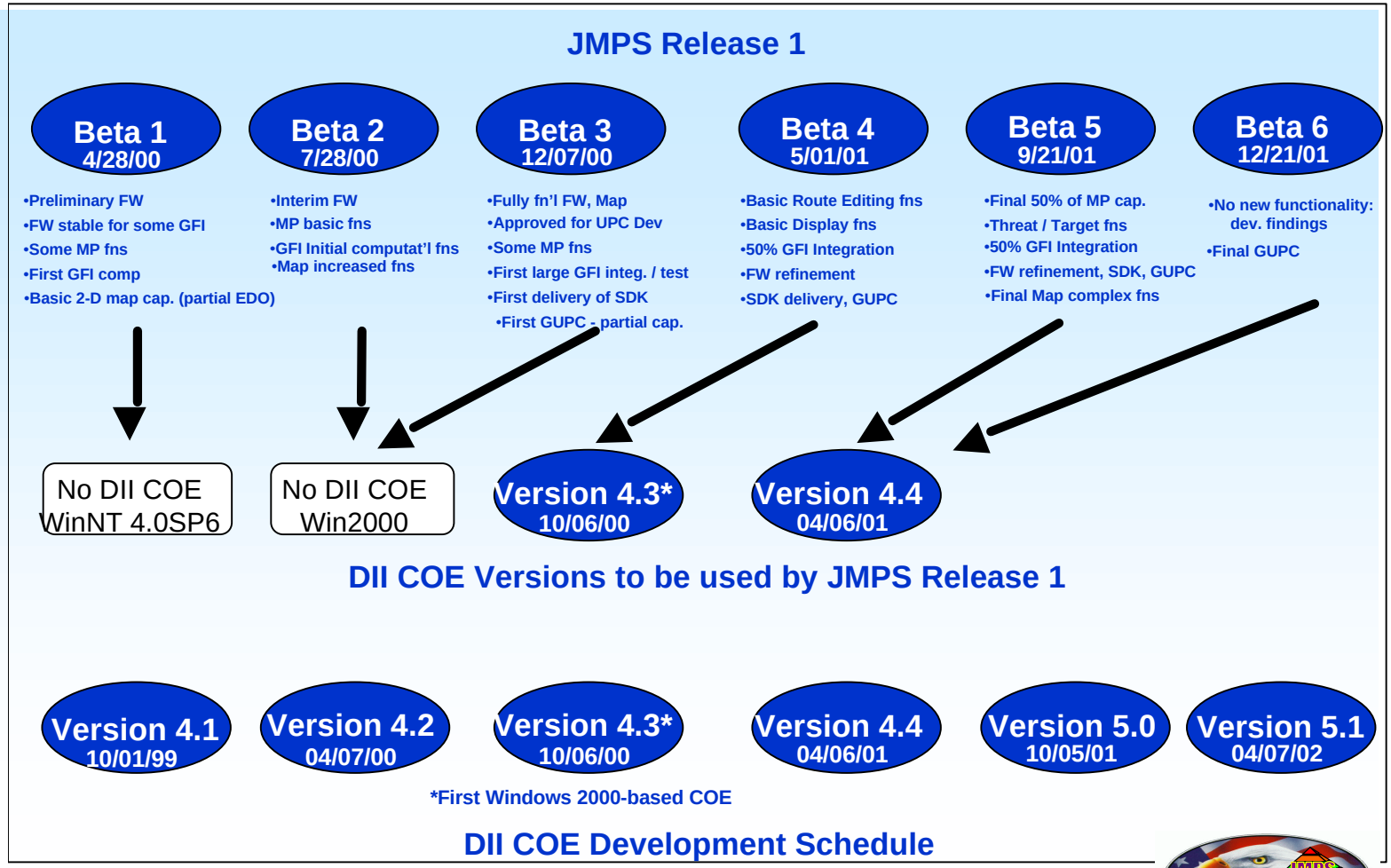
# DII COE Scope and Applicability

- **Scope of JMPS DII Compliance Requirements**

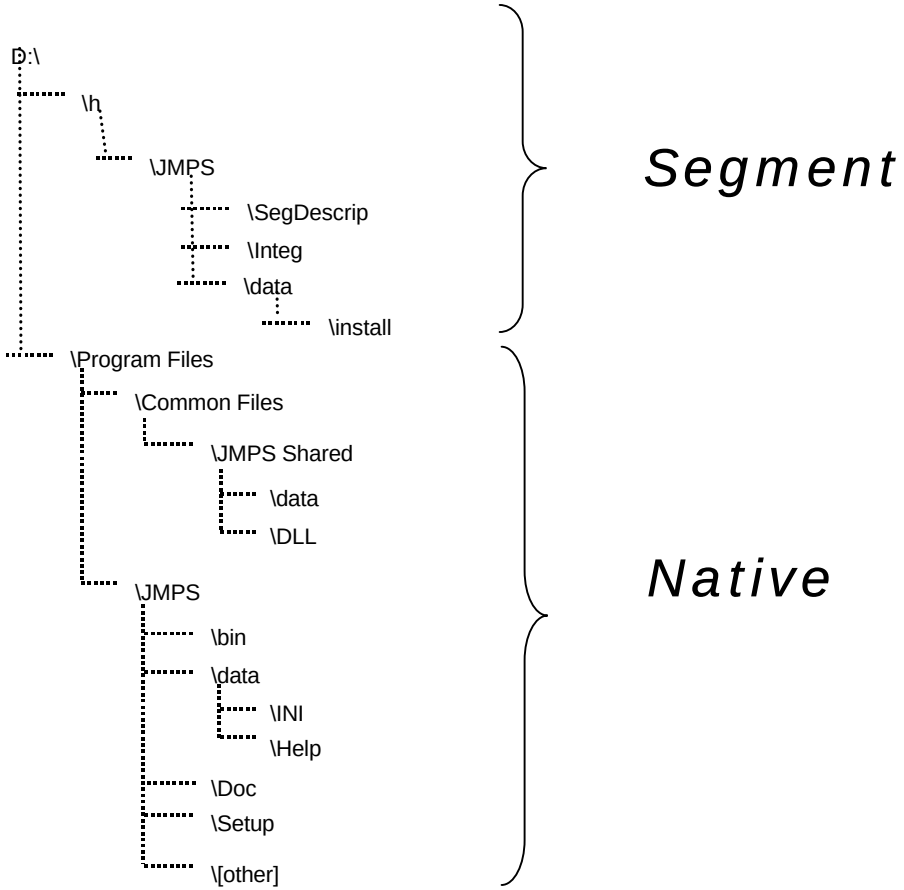
| JMPS SSS Section | JMPS SOR # | Requirement Statement |
|---|---|---|
| 1.2 System Overview | N/A | Migrate Air Force and Navy mission planning to the DII COE as applicable to Windows NT, with the initial compliance of Level 6 and the goal to evolve to compliance Level 7. |
| 3.2.6.1.1 Data Load and Update - General | JMPS-069-00100 | JMPS tactical data shall be stored in accordance with the Level 6 (threshold) and Level 7 (objective) database requirements of the DII COE I&RTS. |
| 3.10 Computer Resource Requirements | JMPS-090-03100 | JMPS shall provide initial Defense Information Infrastructure Common Operating Environment (DII COE) compliance for Windows NT of at least Level-6 and a goal of evolution to compliance at Level-7. |

- **Applicability of JMPS DII Compliance Requirements**
  - Applicable to JMPS, where JMPS = JMP-E + UPCs

# JMPS Release 1 DII Compliance Schedule

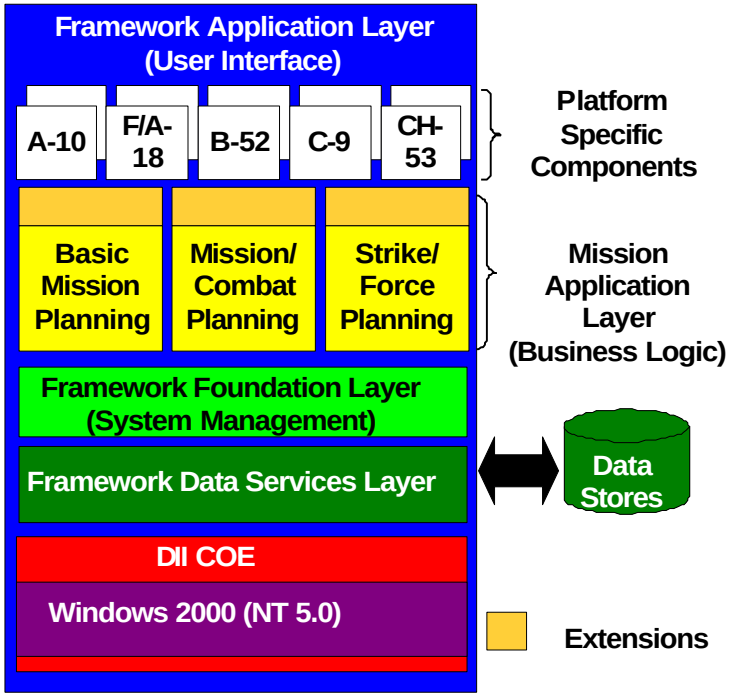


# Notional JMPS Segment Directory Structure*



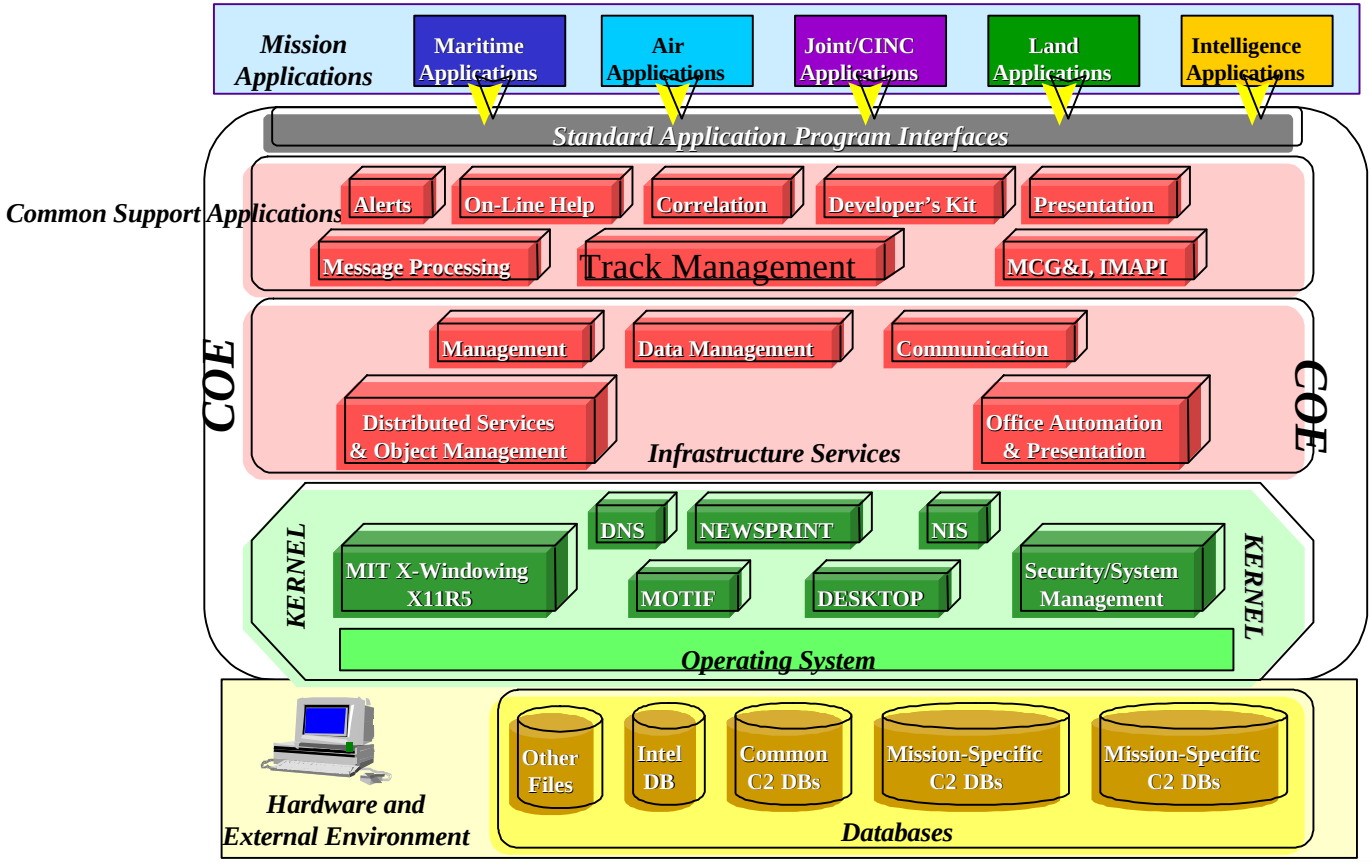

***Based on capabilities of COE 4.1 COEInstaller**

# JMPS System Architecture

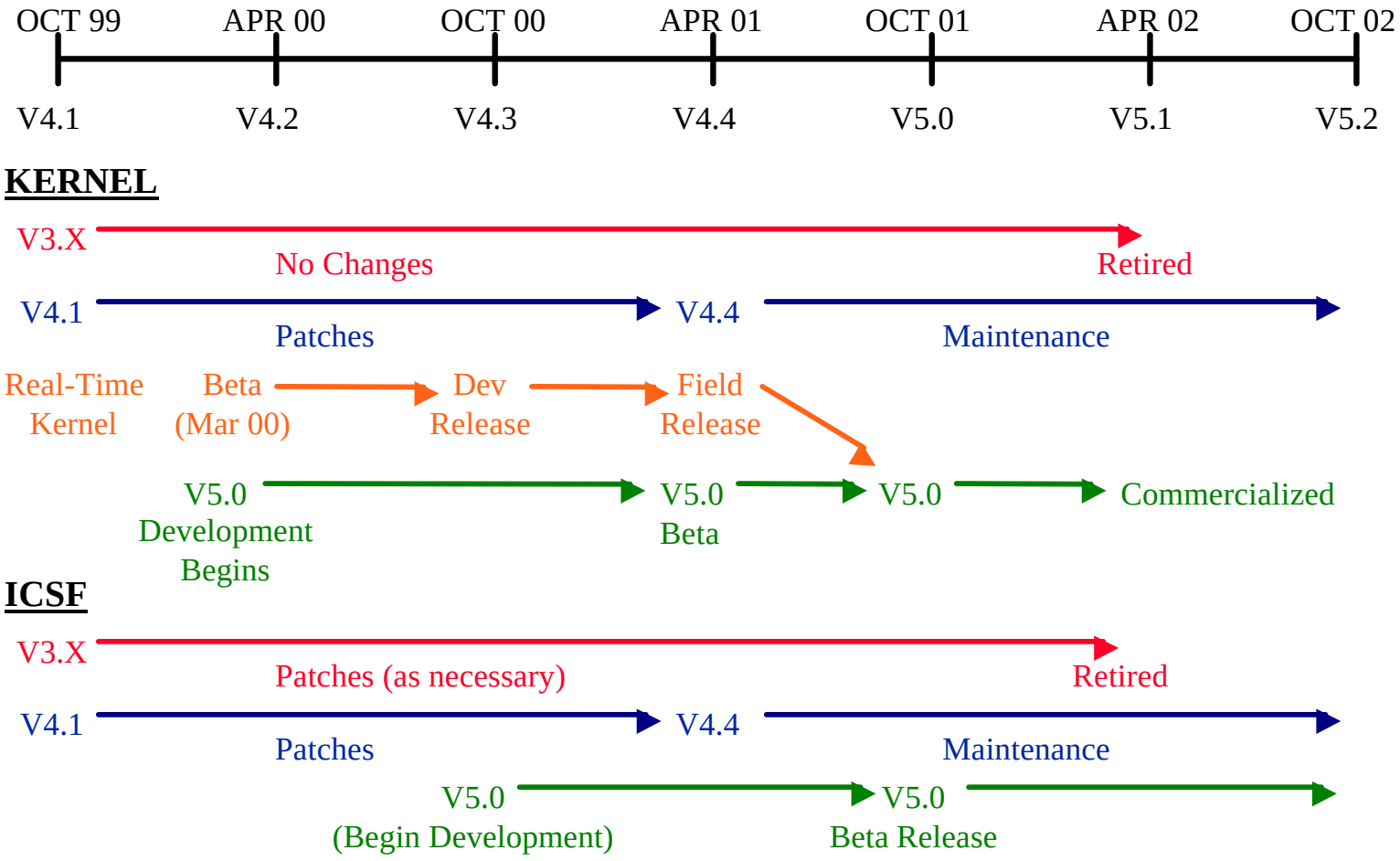



- **A set of components that can be configured into "systems"**
- **Mission planning functionality is provided by**
  - Mission application components
  - Platform specific components
- **Component Framework provides**
  - Dynamic configuration & session management of a "system"
  - Access to data stores & sources
  - Common user interaction
- **DII COE provides**
  - Windows 2000 (NT 5.0)
  - Interoperability with other systems and data sources

# DII COE Architecture



# DISA's COE Delivery Plan (as of 1/31/2000)



# JMPS DII Compliance Developer Documentation (1 of 5)

- **Principal DISA Documentation**
  - DII COE Integration and Runtime Specification (I&RTS) Version 4.0, Oct 1999
  - DII COE Developer Documentation Requirements (DDR), Version 2.0, 23 January 1998
- **Principal JMPS Documentation**
  - Draft JMPS DII Compliance and Segmentation Plan, Version 1.3, 15 December 1999 (currently undergoing customer and Logicon review)
  - Draft JMPS Segmentation Standard, Version 0.4, 22 December 1999 (currently undergoing customer and Logicon review)

# JMPS DII Compliance Developer Documentation (2 of 5)

- **JMPS DII Compliance and Segmentation Plan**
  - Objectives of Plan
    - Provide:
      - A general plan for achieving and verifying JMPS' DII requirements before the JMPS 1.0 Test Readiness Review (currently scheduled for 1/4/2002)
      - Detailed plans for incrementally achieving and verifying JMPS' DII compliance requirements over several JMPS beta releases
  - Target Audience for Plan
    - Entire JMPS community (program management and developer)
    - Additional, detailed implementing instructions for JMPS developers are available in JMPS Segmentation Standard

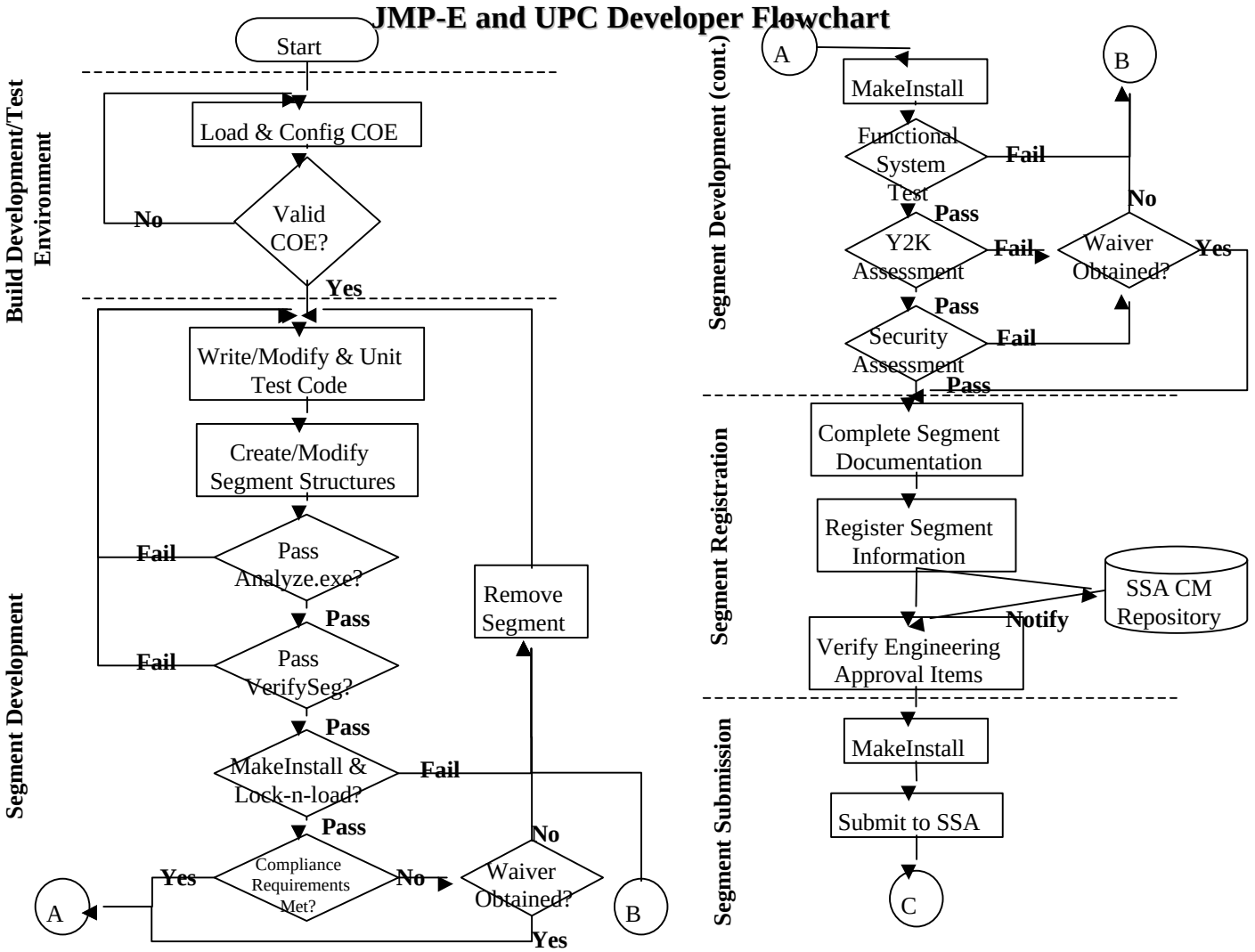
# JMPS DII Compliance Developer Documentation (3 of 5)

- **JMPS Segmentation Standard**
  - Objectives of Standard
    - Establish a set of consistent rules, guidelines, and references to achieve DII Level 7 compliance for as many individual JMPS segments as possible and to achieve a minimum of DII Level 6 composite compliance for the JMPS Release 1 system.
    - JMPS segments that are properly processed in accordance with this standard will:
      - Achieve DII Level 7 compliance*
        - JMPS segments that use a non-COE mapping application (e.g., FalconView) must request and receive a waiver of I&RTS 4.0 (Oct 99) Appendix B Checklist Item 7-34 from the COE Chief Engineer in order to achieve DII Level 7 compliance.
    - Be properly registered and documented in accordance with DII COE standards (and as directed by the JMPS Engineering Office)
  - Target Audience for Standard
    - Developers of JMPS Framework Components, Common Components, and UPCs

# JMPS DII Compliance Developer Documentation (4 of 5)

- **JMPS Segmentation Standard (continued)**
  - Timeliness of Standard
    - Many sections of the Standard cannot be followed by a JMPS developer until he has a DII COE-based development environment, which will not be available until release of COE 4.3/Win2K (Oct 2000). These sections contain an appropriate note.
    - HOWEVER, many sections of the Standard relate to JMPS component design (and, by extension, segment design) . These sections can and should be followed by JMPS developers, beginning with Beta 1.

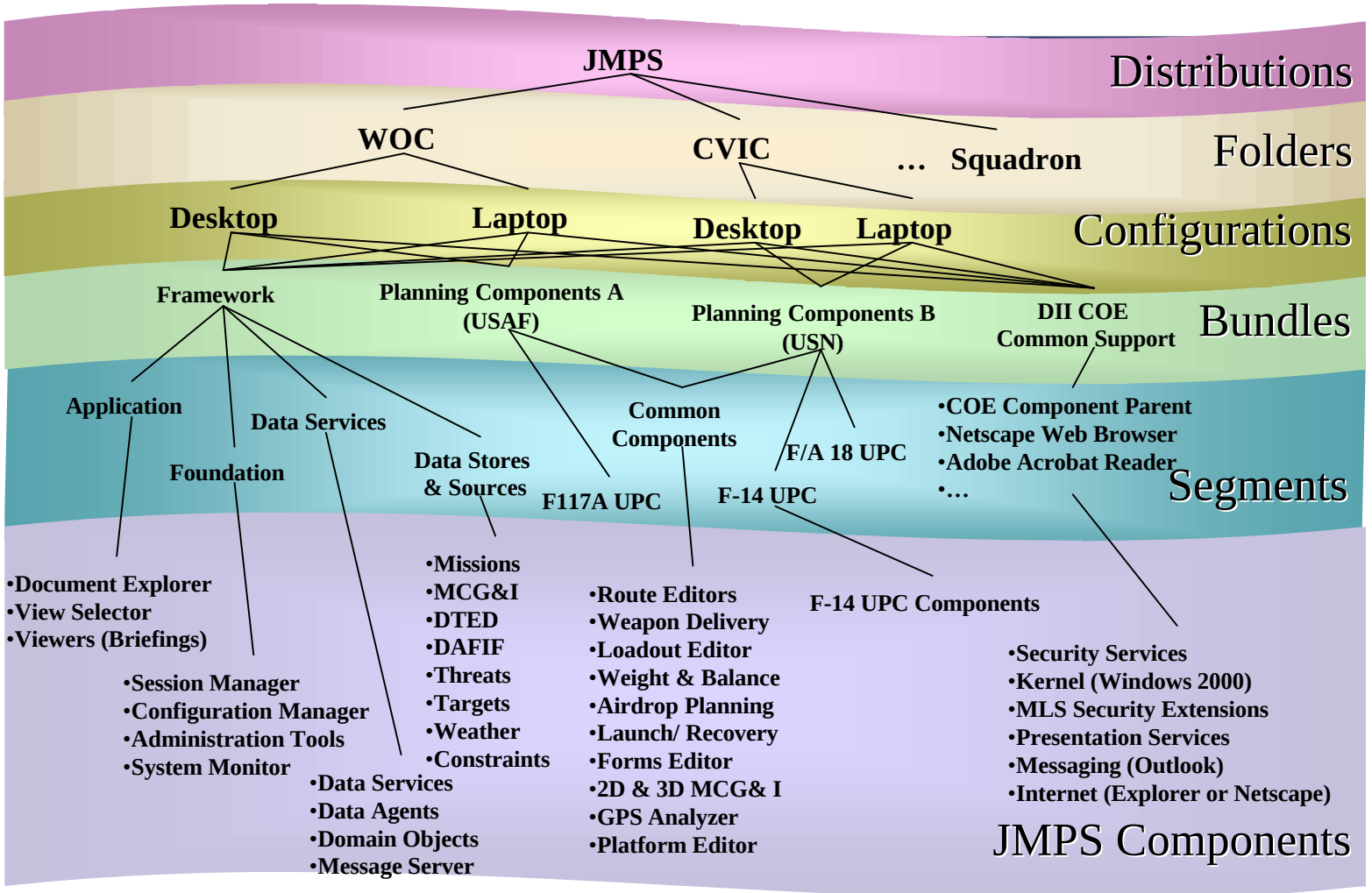
# JMPS DII Compliance Developer Documentation (5 of 5)



# JMPS DII Compliance Developer Tools

- **Principal DISA-provided tools**
  - DII Developer's Toolkit (DII_DEV)
    - Availability
      - Bundled with COE 4.x kernel
    - Capabilities
      - VerifySeg
      - CalcSpace
      - TimeStamp
      - MakeInstall
      - Etc…
    - JMPS developers will use as prescribed in Segmentation Standard
- **Principal JMPS-provided tools**
  - JMPS Segmentation Wizard
    - Availability
      - Bundled with JMPS SDK (starting with Beta 4)
    - Planned capability
      - "[g]enerate [a] valid DII-COE segment for a UPC development based [on] developer dialog interactions. Save and remake upon demand." [JMPS SDP Table 40.3-2]

# Notional Sample JMPS COE Configuration Definition



# Notional Sample Configuration Definition File (1 of 2)

```
Example:  JMPS has a Fighter Squadron Laptop Configuration it wishes to
distribute which contains the following notional segments:

Segment Name (Segment Prefix) Repository Directory
==================================================
JMPS Framework Components (JFC) .\JFC
JMPS Common Components (JCC) .\JCC
JMPS F/A 18 UPC (F18UPC)  .\UPC\F18UPC

A configuration definition file can be generated to produce a bundle (a
  set
of segments able to be installed as one unit or individually at the
installer's discretion):

ConfigDef -o fsqdrn_laptop.cdf -nb "JMPS Fighter Squadron" -vr 1.0.0.l -
  s
JFC -s JCC -s UPC\F18UPC

creates a configuration definition file called "fsqdrn_laptop.cdf" which
looks like:

$BUNDLE:JMPS Fighter Squadron
{
$VERSION:1.0.0.1
$SEGMENT:JFC:
```



# Notional Sample Configuration Definition File (2 of 2)

The MakeInstall utility uses one or more of these configuration definition files, individual segments or a combination of both to create the appropriate COEInstaller compliant media (disk for network installation, cd, tape, etc.)

To add a new segment (for example: JMPS F-14 UPC (F14UPC) .\UPC\F14UPC) it can either be added to the configuration definition file to update the formal distribution:

```
ConfigDef -o fsqdrn_laptop2.cdf -nb "JMPS Fighter Squadron" -vr 1.0.0.2 -s
JFC -s JCC -s UPC/F18UPC -s UPC/F14UPC
```

OR
be added directly to the media for enhancements to the distribution:

```
MakeInstall -di fsqdrn_laptop.cdf -s UPC/F14UPC
```

# Rationale for Beta 4 / COE 4.3 (1 of 2)

- **Rationale (from Section 4.3 of the Plan)**
  - DII COE and JMPS Beta Versions 1, 2, and 3
    - First Windows 2000-based COE is COE 4.3, release date 6 Oct 2000
      - JMPS Beta Version 1 and 2 already released
      - JMPS Beta Version 3 development in mid-stride
        - formal Beta 3 component qualification testing will begin in early Nov 2000
      - Segmentation of Beta 1, 2, and 3 components will still be required, as will pre-Beta 4 regression testing in a DII COE-capable JMPS testbed
  - COE 4.3 and JMPS Beta Version 4
    - The first Windows 2000-based COE (Version 4.3) will be released by DISA on 6 October 2000 (assuming—as is likely—that Windows 2000 is deemed sufficiently stable by DISA's COE Engineering Office). This will allow adequate time for Logicon to:
      - use the COE 4.3 Developer's Toolkit (DII_DEV) to confirm the DII compliance assessment of previously released JMPS components
      - distribute and install COE 4.3 at all JMPS development sites (after completion of Beta 0.3 development, integration, and testing)
      - install COE 4.3 in the JMPS testbed (after completion of Beta 0.3 testing)
      - prepare for the Beta 0.4 Design Review (scheduled for 4 Feb 2001)

# Rationale for Beta 4 / COE 4.3 (2 of 2)

- **Rationale, continued (from Section 4.3 of the Plan)**
  - COE 4.4, JMPS Beta Versions 0.5, 0.6, and JMPS Release 1
    - COE 4.4 will be released by DISA on 6 April 2001. This will allow adequate time for Logicon to:
      - distribute and install COE 4.4 at all JMPS development sites (after completion of Beta 0.4/COE 4.3-related development, integration, and testing)
      - install COE 4.4 in the JMPS testbed (after completion of all Beta 0.4/COE 4.3-related testing)
      - prepare for the Beta 0.5 Design Review (scheduled for 30 June 2001)
    - All Beta 0.5, Beta 0.6, and JMPS Release 1 design, development, testing, and release will be based on COE 4.4
  - COE 5.x and JMPS Release 1
    - COE 5.0 release date 5 Oct 2001
    - Assessed risks to JMPS program too high to allow use of COE 5.x
      - Interoperability risk
        - All major C4I systems running on COE 4.x
      - Technical/schedule risk
        - COE commercial kernel “known unknowns”

# JMPS DII Compliance Developer Documentation

- **Contents of JMPS DII Compliance and Segmentation Plan (v1.3, 12/15/99)**
  - Section 1 Scope
    - "This DII Compliance and Segmentation Plan (LAT99xxxx) is Logicon's plan for ensuring that Joint Mission Planning System (JMPS) Release 1 meets the JMPS DII compliance and segmentation requirements [in the JMPS SSS dtd 15 Nov 99]"
    - Definition of terms (e.g., segment, component)
    - JMPS system overview
    - Document overview (tailored SDP format)
  - Section 2 Referenced Documents
    - DII COE I&RTS 4.0 (Oct 99)
    - Logicon JMPS SDP, latest version (now 10 Dec 99)
    - Others…
  - Section 3 Overview of JMPS DII Compliance and Segmentation Requirements
    - JMPS System Architecture
    - DII COE Architecture
    - JMPS DII compliance and segmentation requirements
      - Current JMPS Compliance Assessment (Appendix B of Plan)
      - Current JMPS Compliance Verification (Appendix C of Plan)

# JMPS DII Compliance Developer Documentation

- **Contents of JMPS DII Compliance and Segmentation Plan (continued)**
  - Section 4 General Plans for Meeting JMPS DII Compliance and Segmentation Requirements
    - JMPS Schedule Overview
    - DII COE Schedule Overview
      - DII COE 4.x
        - COE 4.3 slated to be first Win2000-based COE
      - DII COE 5.x
        - Commercial COE kernel
    - DII COE and JMPS Release 1
      - JMPS Release 1 will be fielded on COE 4.4 (rationale in following slides)
    - JMPS DII COE-related coordination with DISA
      - Registration of JMPS segments with DISA SSA
      - Input and tracking of JMPS software requirements with DISA AOG [proposed new section]
  - Section 5 Detailed Plans for Meeting JMPS DII Compliance and Segmentation Requirements
    - Overview of JMPS DII Compliance Activities (based on latest JMPS SDP)
    - Overview of JMPS DII Compliance Tools
      - JMPS Segmentation Standard
      - JMPS Segmentation Wizard
    - JMPS COE Configuration Identification [proposed new section]

# JMPS DII Compliance Developer Documentation

- **Contents of JMPS Segmentation Standard (v0.4, 12/22/99)**
  - Logicon Software Engineering Standard (SES) front matter
    - Applicability
      - Applies to all software delivered as part of the runtime version of JMPS Release 1
        - By definition this includes JMP-E and UPC components
  - APPENDIX A (the basic JMPS Segmentation Standard)
    - Objective of this Standard

      *See previous slide*
    - Organization of this Standard

      *Based on "manual" segmentation using the DII COE Developer Toolkit (DII_DEV) vice automated tooling, such as the future (Beta 4) JMPS Segmentation Wizard*
    - Segment Design Considerations
    - 3.1. System design, configuration and resource considerations
      - *Provides a list of "bad" design decisions*
    - 3.2. Guidance for mapping JMPS components to COE segments
      - *Currently provides general guidance only. A new proposed section will discuss specific JMPS considerations (see Backup Slides)*
    - 3.3. JMPS Segment Design Reviews
      - *Held in conjunction with scheduled JMPS component design reviews. COE Engineering segment design checklist used as baseline.*
    - JMPS Segmentation Technique

      *"Hybrid segmentation" technique, similar to that used with abbreviated COTS segments proposed for use on JMPS. Allows use of developer's preferred commercial installation tool (e.g., MSI, InstallShield, etc)*

# JMPS DII Compliance Developer Documentation

- **Contents of JMPS Segmentation Standard (continued)**
  - APPENDIX A (the basic JMPS Segmentation Standard), continued
    - JMPS Segment Verification and Creation
      *Describes use of DII_DEV toolset*
    - Pre-delivery DII Compliance Testing for JMPS Segments
      *Describes 4 types of JMPS segment (vice component) testing: functional, DII compliance, security, and Y2K*
    - JMPS Segment Documentation
      *JMPS CDRL takes precedence over DII COE Developer Documentation Requirements (DDR). JMPS Chief Engineer must still issue pro forma waivers in order to document DII compliance. Proposed revision to this section will fully describe JMPS CDRL-to-DDR mapping and the documentation waiver process.*
    - JMPS Segment Registration
      *Describes how segment names, prefixes, fixed port assignments, etc will be deconflicted with DISA and with other mission-application PMs (I.e., Logicon will do it until government JMPS SSA is established).*
    - JMPS Segment Delivery Procedures
      *JMPS segment deliveries will occur beginning with Beta 4. However, delivery letter, delivery checklist, documentation, waiver, and software media marking instructions will be included in the January 2000 version of this Standard. These will be derived from the DISA segment delivery procedures.*
    - JMPS Post Delivery Segment Support Procedures
      *Deferred to a later revision of the Standard*
    - JMPS Segment Upgrade and Redelivery Procedures
      *Deferred to a later revision of the Standard*
    - JMPS DII Compliance Waiver Process
      *Provides technical waiver format and waiver sample. Next revision will provide documentation waiver format and sample.*
    - References

# JMPS DII Compliance Developer Documentation

- **Contents of JMPS Segmentation Standard (continued)**
  - Attachments to Appendix A

Attachment 1: Sample Segment Descriptor Files

*The SegInfo directory is the sine qua non of DII compliance. This Attachment is a tutorial on all SegInfo files and keywords*

Attachment 2: Sample Verification Output

*Deferred to a later revision of the Standard*

Attachment 3: Sample Integration Notes

*Deferred to a later revision of the Standard*

Attachment 4: JMPS DII Compliance Checklist (Sorted by JMPS Reference Number)

*J1-x covers basic system requirements imposed by DII compliance*

*J2-x covers application design requirements imposed by DII compliance*

*J3-x covers database design …*

*J4-x covers COTS integration …*

*J5-x covers DII segmentation technical…*

*J6-x covers documentation…*

*J7-x covers security…*

*J8-x covers web-based application design…*

*J9-x covers DII compliance process …*

Attachment 5: JMPS DII Compliance Checklist (Sorted by I&RTS Compliance Checklist Number)

*Cross reference for Attachment 4 of the Standard*

Attachment 6: FAR Definitions Related to Year 2000 Compliance

*The JMPS Contract (**N00019-98-C-0183)** still has a FAR requirement for Y2K compliance, and this FAR requirement contains date-related requirements in addition to the millennial roll-ahead. Logicon Contracts is researching….*

Attachment 7: Acronyms, Abbreviations and Contractions